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THE
Valetudinarian's Companion,
O R,
OBSERVATIONS
O N
AIR, EXERCISE, AND REGIMEN,
WITH THE
MEDICAL PROPERTIES
O F THE
SEA AND MINERAL WATERS
O F
BRIGHTHELMSTON.

By LOFTUS WOOD, M.D. PHYSICIAN to
the MISERICORDIA GENERAL DISPENSARY.

Quod petis hic est. HOR.

L O N D O N:

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T O
THE NOBILITY AND GENTRY,
WHO VISIT
BRIGHTHELMSTON,
FOR THE
BENEFIT OF THEIR HEALTH:
THE FOLLOWING
OBSERVATIONS
ARE
RESPECTFULLY PRESENTED,

By THEIR MOST OBEIENT

AND VERY HUMBLE SERVANT,

LOFTUS WOOD.

LONDON, June 12th, 1782.

P R E F A C E.

*I*T may seem unnecessary to present this small Essay to the World, upon subjects which have employed the pens of the most able writers: my only excuse is, that many persons visit Brighthelmstone to bathe, and drink the waters; who by proceeding incautiously without the advice of a regular Physician, often very materially injure their healths and impair constitutions which otherwise might have remained sound and vigorous.

There being nothing published, in a small compass, which could give the Patient, unskilled in medical knowledge, a cursory view of the advantages and disadvantages, arising from the use of baths and drinking sea and mineral waters; I apprehended the following observations might be useful, and acceptable to the public.

I have quoted the opinions of the best authors, both ancient and modern, on the subjects I have treated of. The nature of this Essay required that liberty, therefore I hope I shall not be deemed guilty of plagiarism, for having introduced into this little work, the pertinent observations of other writers; in such order as seemed most consistent with, and suitable to, the intended simplicity and brevity of my plan.

The observations made in the following pages, are chiefly confined to Brighthelmston, but are nearly applicable to Margate, and most of the other elegant sea bathing places in England.

OF THE
SITUATION AND AIR
OF
BRIGHTHELMSTON.

THIS ancient town, is situated on the sea coast, in the county of Suffex, being about fifty-four miles south of London; commanding a prospect of a most beautiful bay, which forms a part of the English channel: the shore is bold and deep, covered with a fine hard sand; the extensive downs and fruitful hills that nearly encompass this town, serve to defend it, in the winter, from the north, east, and west winds.

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The soil is of a chalky nature, dry and free from marshes, the crops are luxuriant, and the grass of a fine silky texture, promiscuously interspersed with a variety of aromatic plants.

The fresh water, used for the common purposes of life, is extremely pure, being filtered through rocks of chalk; which abound in this country: it is a curious fact and worthy of observation, that the wells of this town sink with the flowing, and rise with the ebbing of the sea.

Before we treat of the quality of the air of Brighthelmston, we shall premise a few of the general principals of pneumatics; air, therefore, when pure, is a transparent fluid, having weight and endued with a very great degree of elasticity, which is increased by heat and diminished by cold; or in other words, heat rarifies the air, and cold condenses it.

But

But the common air, of the atmosphere in which we breathe, is a heterogenous mass ; generally containing a quantity of watery particles, and impregnated with various light and volatile substances.

Human life consists in the motion of the heart, and circulation of the blood ; neither of which can be carried on, without respiration : therefore air is an agent, not only necessary to life, but according to its quality, has a material influence upon the state of the health.

Physiologists have differed very much, with regard to the use of respiration, some think its use in dilating the lungs, is to enable the blood to pass through the finer vessels, into the pulmonary veins ; others say that the air mixes with the blood, in order to dilute its particles : some imagine that it is intended to cool the blood, by carrying off its superabundant phlogiston ; whilst later writers in direct opposition to
this

this opinion, have supposed that it heats the blood, at the same time alledging that heat and phlogiston, are contrary in their nature. I shall not in this place attempt either to establish or controvert any of these doctrines; it is sufficient for us to know, that if respiration be stopped any considerable time, death must necessarily be the consequence; that no animal used to open air, can live when long confined in foul air; and that air is essentially necessary to enable us to hear, smell, and speak, being the vehicle of sound as well as of odour.

The various changes this fluid undergoes, by being combined with the volatile parts of animal, vegetable, and mineral substances, and by the reception of different degrees of heat and cold, renders a knowledge of the quality of the air, we are to breathe in, a very serious object of consideration; as, when taken into the lungs in certain states, it is often the occasion of various disorders, to which the
human

human body is liable. How often do we find people infected with diseases, by only breathing the air contained in a sick person's chamber? how frequent do putrid fevers, and even consumptions arise, from inhaling air impregnated with the effluvia of putrid bodies? three fatal instances of this last kind, have happened, within these few years to three anatomical professors in London; all young men of the most promising genius.

In fact we cannot be over cautious in choosing the air we are to breathe in, as we are much more liable to be infected from what goes into the lungs, than by the food we take into the stomach. When the plague, measles, small-pox, &c. are epidemical, the air is the common vehicle, by which this infectious matter is conveyed and communicated.

In warm climates, where the air is very hot, and consequently highly rarified; the
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inhabitants are subject to inflammatory fevers and bilious disorders: on the contrary in those latitudes, where the air is cold and condensed, natural perspiration is obstructed; circulation retarded, and the fluids inspissated; from whence arise coughs, rheumatisms, and consumptions.

In rainy climates the air is much saturated with watery particles; which relax the habit, destroy the tone of the solids, and render persons breathing this air, subject to intermitting fevers, jaundice, dropy, and similar disorders.

The air in great cities, from the innumerable noxious particles which it absorbs, is very pernicious to asthmatic, consumptive, and delicate constitutions; and to all that class of people who are subject to nervous, hysteric, and hypocondriac diseases. Stagnated or mephetic air, is commonly found in hospitals, goals, and ships; and is generally the cause of dangerous putrid
and

and malignant fevers, to those who are so unhappy as to be long confined in these places: of late ventilators have been used to purify the air in such situations; the many beneficial consequences already produced by this invention, we hope in a little time will make the use of ventilators much more general.

Many fatal accidents have happened to people, entering incautiously into pits, wells, cellars, mines, &c. where the air has been pent up a long time; the breathing such noxious effluvia, being commonly attended with instant death. The best method to examine this kind of air, is to try whether a candle will burn in it; if the flame be immediately extinguished, the air of such place is reckoned unfit to sustain human life. Buildings situated in low marshy places, or near lakes, have the air very unwholesome; and in houses erected in the midst of woods or groves, much shaded, or near extensive flower gardens,

gardens, the air is pernicious, especially in the night. The ingenious Doctor Ingenhouthz, in a late publication, proves that the air of all flowers, is at all times noxious; and still further, that every species of plant in the dark or shade, emits unwholesome vapours; on the contrary, that a pure and dephlogisticated air, is produced from the leaves and stems of all kinds of plants, when exposed to the light of the sun; and that an animal will live five times as long inclosed in a certain quantity of this purified air, than it would, if shut up in an equal quantity of the common air, of the atmosphere. From the above observations, people ought to guard against keeping too many flowers in close rooms, or sleeping at night under the shade of trees, or leaving their bed chamber windows open in the night, if near a grove or forest.

From these few remarks, we may easily conceive how essentially necessary pure air is, to the preservation of health; we ought
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therefore to be still more cautious in our choice of it; when it is to be used as an auxiliary, in the recovery of sick persons:

We often find that people pay too little attention to the quality of the air, in which patients are confined, to the fatal destruction of many of the human race; errors of this kind do not so often happen from the neglect of the physician, as from the obstinancy of the nurses, who generally keep their patients too hot, by shutting them up, in close chambers, where the pure air is denied all manner of access.

The first care of a physician should be, to advise his patients to reside in those situations, where the air is best adapted to the nature of their complaints: but if air cannot be found, with medical properties, which may assist in the removal of disorders; at least such should be sought for, as would not aggravate them.

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With

With regard to the purity of the air of England, perhaps no town can be found to enjoy a more salubrious one, than Brighthelmston, its lofty situation, proximity to the sea, dryness of soil, great distance from forests and stagnant lakes, little rains and almost constant serenity of atmosphere; naturally point it out, as a most healthy and delightful residence, particularly for valetudinarians, in the summer season.

Doctor Relhan a learned physician and strict observer of nature, wrote a short history of Brighthelmston, with remarks on its air and an analysis of its waters; from various experiments, which he made, besides consulting several of the most intelligent people of the town, he drew the following conclusions.

That in England the changes of heat and cold, tho' often sudden, are never excessive; that situations near the sea, have refreshing breezes, all the summer; and
their

their frost and snow, in the winter, are but of short duration; that in the summer months at Brighthelmston, a sea breeze prevails, which rises with the sun and dies away with the setting of the same; that the warmer the day is, the more cooling and fresh is the breeze; so that the almost suffocating heats, which sometimes happen in this Island, and which are intolerable, even to the natives of the torid Zone, are never felt here.

That the same temperature prevails in winter, with respect to frost and snow, the former happens sufficiently often, to add to the health of the inhabitants, is sharp while it lasts, but its duration is short, snow frequently falls during the winter season; but seldom continues on the ground above a day or two; the warmth from the sea and the south west winds, which prevail, soon dissolves it; therefore the effects produced here either by the different degrees of heat or cold, are too transitory to be pernicious. Ob-

Observations were made upon the weight of the air, of this town, by means of the barometer, during the summer months, it was found that the mean height was about twenty-nine inches and a half, and that the greatest variation did not exceed half an inch: observations were made in London at the same time, when it was found that the mean height exceeded thirty inches, and that the greatest variation was about two inches; consequently the variations of the atmosphere in London, were greater than at Brighthelmston.

Mr. Boyle, who improved the air pump, computed that the weight of the circumambient atmosphere, upon the external surface of a middle sized man, was nearly equal to two hundred and forty hundred weight; therefore supposing the quick silver at that time, to stand at twenty-eight inches in the barometer, if by change of weather the mercury rose to thirty inches and one third, according to his computation,

tion, this man must sustain the additional weight of twenty hundred, so that the whole pressure at that time would be equal to two hundred and sixty hundred weight.

To those unacquainted with the laws of pneumatics it may seem strange, that the human body could be able to sustain so great a pressure; but this wonder must soon cease, if they consider that the air is a fluid, which presses equally in all directions; and that the air contained in every part of the human body, is nearly in equilibrium with the external air; consequently sustains its pressure; for this amazing weight of atmosphere, does not affect the human body so much, as a person diving in the water, is affected by the weight of that, which is above him. But if the equilibrium of the air be destroyed, by the external air being condensed; immediately a pressure takes place, in proportion to the density, by which means the tender
fibres

fibres of the body may be broken and destroyed: on the contrary, if the external air be much rarified, then the air contained in the body, from its elastic nature, will expand itself, in order to restore the equilibrium, and burst the tender vessels: these facts are self evident, to those the least acquainted, with the science of experimental philosophy.

From these observations we may be able to account for the cause, why those who live in certain situations, according to the changes of the atmosphere, are subject to spitting of blood, asthmatic complaints, and various other disorders. As the common air, must always be impregnated with the effluvia arising from the different bodies it passes over; hence near the sea coasts, the air must not only contain a certain quantity of the sea water, which is evaporated by the heat of the sun, but also of that which rises in spray, impregnated with its salts; therefore we may justly say,
that

that the air of places situated near the sea, is medicated with its waters; and perhaps no air more purely so, than that of Bright-helmston; it being free from stagnant waters, noxious vapours arising from plants, or any effluvia, that might tend to viciate this useful element.

Inflammatory fevers, asthmatic complaints, consumptions, dropsy, chlorosis, and hysterical disorders are little known among the inhabitants of this place; indeed this is apparent to every stranger, as the picture of health seems painted in the face of each individual.

From an exact register of all the deaths and christenings that happened in this town for near a space of fifty years, it appeared that there were nearly two births for one burial; although above two thousand strangers resort thither, every summer, for the benefit of their health; so healthy and prolific are the inhabitants, nor can there
be

be a stronger instance of the salubrity of this place.

Upon a calculation from the bills of mortality of the city of London, including a period of thirty years, it is found that at a medium, there are nearly three deaths for two births, this apparently great degree of mortality, may be supposed to proceed from the amazing number of strangers, who are daily adding themselves to the inhabitants of London.

Similar calculations were made, in several of the inland towns and villages of England; and it was generally found that the births were nearly equal to the deaths, or at most in the proportion of one hundred and ten births, to one hundred deaths.

From the best and truest calculations, it appears that one person out of thirty dies every year in London, and by the former accounts of the annual deaths in Brighthelmston,
only

only amount to one out of sixty, which account if well founded, places the healthfulness of this town, in the proportion of two to one, to that of London.

O F T H E F O O D O F B R I G H T H E L M S T O N .

THIS town being situated in one of the best planted, and most fruitful shires in England, furnishes us with great plenty of choice vegetables, as well as animal food. The fruit shops in the proper season, abound with plumbs, cherries, apricots, peaches, strawberries, raspberries, currants, gooseberries, apples, pears, all in the highest perfection; the gardens and the markets are plentifully stored with cabbage, coliflowers, celery, asparagus, peas, beans, endive, lettuce, parsnips, carrots, turnips, and potatoes.

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The town is abundantly supplied with eggs, butter, and bread of the best quality. Butchers meat is killed daily, and perhaps no part of the world produces finer and better flavoured mutton, than that, which is fed on the downs near this place; naturalists suppose this excellence to proceed from the fine quality of the grass, arising from its mixture with aromatic plants, which grow here in great abundance; besides these downs are extremely dry and free from marsh or swamp, and the air is extremely pure and salubrious.

Beef, veal, pork, and all sorts of poultry, abound here, and are pretty good in their kind; there is a small bird caught here by the shepherds, called the wheat ear, which is reckoned a very great delicacy: it is in the highest perfection about the middle of August. Epicures call it the English Ortolan, and the Italians the Becchafica.

Fish

Fish, most excellent in its kind, is caught here in great abundance; the months of February, March, and April the natives employ in drudging for oysters; which are conveyed to beds in the rivers Medway and Thames, to be prepared for the London market.

The months of May, June, and July, are employed in fishing for mackrel, mullet, lobsters, crabs, shrimps, and prawns, which also supply the London market, yet some are sold tolerable cheap here; in July and August, great quantities of flat fish are caught, as flounders, soals, &c.

In the months of September and October, whittings are caught with lines, in great abundance; and November and December close the year with immense shoals of herrings, which are caught and salted for foreign markets; this herring fishing does not end before the first of February, at which time, as we mentioned before, the oyster fishing begins. Ha-

Having thus enumerated some of the chief kinds of food, which are the produce of this country; it may not be improper to make some enquiry into the nature and properties of food in general, how it becomes wholesome or unwholesome; from its agreement or disagreement, with different constitutions; by which the valetudinarian may in some degree be able to judge for himself, in a matter of the greatest importance to the preservation of his health.

Several learned authors have written upon this subject, particularly Doctor Lemery, but I shall chiefly confine myself to the observations of the ingenious Doctor Cullen, of Edinburgh, delivered in his course of lectures upon the *materia medica*.

Among the many causes of ill health, physicians do not rank an error in food or drink, as the least powerful; when a healthy person takes proper food it soon
dissolves,

dissolves, leaving its nutritive parts absorbed and turned into chyle; but in weak stomachs, food incautiously taken, becomes difficult to digest, an unnatural fermentation takes place, producing pain and flatulency, and the nutriment turns bitter, sour, or putrid; by which means dangerous disorders are often produced.

We often find that people of weak stomachs, immediately after eating a great quantity of muscles, have been seized with a stupor, their heads have swelled to an immoderate size, their faces assuming a dark red, and their eyes seeming to start from their sockets; nor did these terrible symptoms always end here, for death has often closed the fatal scene.

Those who are so unhappy as to be seized with this disorder, ought immediately to take an emetic, and drink plenty of warm water gruel, in order to cleanse the stomach; when the disorder is very violent, some

some advise to bleed from the jugular veins:

The cause of this disease is generally ascribed, to a copper quality, which the muscles have acquired, by feeding on a copperas bank : but the true reason arises from the viscid glariness of the fish, clinging to and irritating the coats of the stomach; which only cause, can be immediately relieved, by the use of proper evacuants. The symptoms of a person poisoned by copper, are immediate sickness, vomiting and purging : but if poisoned by shell fish, the face turns red, the head swells, the breath is oppressed and a stupor succeeds.

From these observations it may appear that some kinds of food are wholesome and other kinds unwholesome, and that no one sort, is universally proper for all constitutions. Milk being the best nourishment for young children, we may suppose that weak stomachs, require food of easy digestion : therefore rabbit is proper food
for

for valetudinarians, and pork or bacon are best suited to the stomach of the labouring man.

The nutritive parts of vegetables, consist of five kinds, viz. farinaceous matter or flour, vegetable mucilage, sugar, expressed oils, and native vegetable acid.

Flour of these different kinds of grain is nutritive, according to the following order: that of rice, wheat, oats, rye, barley: all unleavened bread of whatsoever flour it is made, is apt to turn sour in the stomach: oaten bread is said to cause the heart burn, but this arises from its not being fermented, and not from any bad quality in the grain.

Bakers often use allum mixed in their flour, to make the bread white; this is pernicious to weak stomachs. The French use white of eggs, and sometimes spirits of wine, to coagulate their dough; the white
of

of eggs is innocent, and the spirit evaporates whilst the bread is baking. The Germans commonly make the leaven for their bread, by exposing wet dough to the air, until it becomes sour, and then mix it with the general mass. The English have a much better method of making leavened bread, by using the yeast of fermenting malt liquors.

Bread is universally eaten by all nations, it ought to be taken freely with animal food; bread soaks up the superabundant juices of the stomach, and aids digestion; toasted bread is least liable to ferment in the stomach. Such plants as cabbages, colliflowers, spinnage, celery, lettuce, afford very little nourishment, and are apt to ferment and turn sour, in weak stomachs; for which reason they are generally used with spices or condiments, and should be eaten only to correct the putrid quality of animal food.

These

Persons subject to flatulent disorders, ought not to eat peas, beans, or french beans, especially if unripe, they ought also to avoid using turnips or radishes, being equally pernicious.

Artichokes, carrots, parsnips, potatoes, contain much farinaceous matter and sugar; if properly cooked they are wholesome nutritive and easy of digestion.

Fruit in general is supposed to be nutritive, in proportion to its sweetness, or the quantity of sugar it contains. Plumbs, cherries, apricots, peaches, are cooling, aperient and in a small degree nutritive: but by eating too much fruit, sometimes a great degree of fermentation takes place in the stomach; which may end fatally, if not prevented by proper medicines.

As this disorder arises from the stomach, the first indication for the cure, is evacuate its contents, as soon as possible: but it of-

ten happens that the tone of the stomach is so much relaxed; that an emetic will not produce the desired effect; in this case something must be taken that may correct the fermentation; therefore a little brandy or some other spirit is the safest and best medicine, for that purpose. Swallowing the stones of fruit is always dangerous, but still more so, if the fruit be unripe; as concretions readily form on them if retained any length of time in the viscera.

Pears in general, contain more nutrition than apples: grapes and strawberries when ripe afford great nourishment; currants and gooseberries are more acid and less nutritive. Cream, spices, austere wine and spirits, generally prevent the fermentation of fruit in the stomach: we often boil, bake, or roast, acerb fruit, by which means it becomes more mild and nutritive.

A moderate quantity of ripe and bland fruit, eaten before meals, by a person of

warm constitution, may be useful, in cooling the stomach; also acerb fruit taken after meals, may tend to brace the stomach, and prevent the putrid tendency of animal food: notwithstanding, fruit ought to be used with great caution, by such as have weak stomachs.

Almonds, raisins, dates, figs, when dried and preserved, are more nutritive and less apt to ferment in the stomach than when eaten fresh.

Melons and cucumbers, are cold and flatulent, they contain little nourishment, ought never to be used without spices; they are justly ranked among those condiments that are most pernicious to the constitution. Some animals live entirely on animal, and others on vegetable food; but naturalists agree, that man, from his construction, was intended to live on both promiscuously.

Animal food taken into a weak stomach,
is

is apt to turn putrid : vegetable food to ferment and become sour ; therefore a proper mixture of animal and vegetable food seems necessary, to correct the defects of each other.

A free use of animal food, encreases muscular force, fills the blood vessels, occasions stupor and heaviness ; and is therefore best suited to laborious people : whilst vegetable diet is more proper for sedentary or studious persons.

Milk however taken with fish, is improper, it hinders digestion, by producing too great a degree of coagulation in the stomach.

Meat which readily putrifies is soon digested, pidgeon therefore sooner than duck : but as meat that is boiled free from gravy, will keep sweet for six months : it therefore follows, that meat too much done is difficult of digestion.

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The flesh of young animals in general, is more viscous than that of old ones; for which reason, lamb, veal, fawn, pig, are much more difficult to digest, than beef, mutton, venison or pork.

Of animal food, rabbit is supposed to be the lightest, venison next, then mutton and beef.

A barn door fowl, is in the highest perfection at one year old, being more wholesome than fowl, fed and crammed in coops or pens; and more easy of digestion than chickens.

The pheasant, grouse, partridge, quail, &c. are more easily digested, than tame fowl, wild duck and teal, more easily than tame duck.

The flesh of fish in general, is more tender and easy of solution, than that of land animals; but the nutritive properties
of

of fish, vary very much, with respect to their different species.

Salmon and trout are tender, nutritive; but are of a heating quality, and not fit for weak stomachs.

Barble, carp, gudgeon, tench, roach, and bream; are less heating, drier and less nutritive than the former.

Perch, and pike, are nutritious and easy to digest.

Mackrel is a light but dry fish, not very nutritious.

Herring possesses much the same qualities as the salmon but is not so nutritious.

Flounder, Soal, and turbot, are of a viscous nature, they are nutritive, but are best adapted to weak stomachs, when boil'd.

Eel -

Eel is very nutritious, but from its being extremely viscous, is only proper for strong constitutions.

Crabs, lobsters, prawns and shrimps, being very strong viscous food, are therefore improper for valetudinarians.

Oysters, above all other shell fish, are light, least heating, and best suited to weak habits.

As the nature of the food we eat, has great influence upon the dispositions of the human body, so it has also upon the mind; for we find that persons of a weak habit of body generally possess delicacy of feeling, liveliness of imagination, quickness of apprehension, and acuteness of judgement, in a very high degree: but on the other hand, they are liable to fluctuation and timidity; whilst the strong and robust, tho' often destitute of quickness of ideas, or extensive sensibility; are nevertheless endowed with

with that steadiness of judgment, and firmness of resolution, which qualifies them for the higher and more active scenes of life.

It would seem, however, that the most valuable state of the mind is found to reside in those persons, whose bodily strength is placed between the extremes, of weakness and robustness. Vegetable diet by its seldom distending the vessels beyond their proper tone, or overloading the system; rarely interrupts the stronger motions of the mind: whilst the heat, fullness and weight occasioned, by animal food, is an enemy to its vigorous efforts.

Excess in eating weakens the powers of digestion, lays the foundation for the gout, apoplexy, and various other disorders.

Having examined some of the general properties of food, in that brief manner, which the nature of our plan requires; it may not be amiss before we conclude this
subject

subject, to make a few observations on the different species of drink. Physicians agree that the great end answered by drink, is, to preserve natural moisture, to make such a mixture of the food, as conduces to easy digestion, and to promote sanguification. Water is the most simple of all fluids, and the most proper drink for such as eat little and take much exercise : but for people who have weak stomachs, yet eat much, a small quantity of wine or other fermented liquor, may be proper to assist digestion ; as pure water will run off too soon, not remaining a sufficient time in the body, to assist the concoction of the food, or carry off the redundant saline particles, from the fluids.

Water mixed with a mucilaginous matter, as when converted into beer, wine, cyder, &c. it does not so soon pass out of the body, answers these intentions much better.

The inhabitants of warm climates could

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not preserve their health, without the use of wine; as the intense heat of the weather, keeps up a constant circulation upon the external parts of the body, so as to render the internal viscera, weak and unable to digest the food, unless assisted by proper stimulants: from whence we may learn, that a moderate quantity of wine, taken with our food, in the summer, aids digestion; but used in winter, it retards it.

Unfermented liquors, as wort, must, new cyder, &c. are sweet, cooling and aperient; but when fermented so as to become ale, cyder, or wine, &c. they are exhilarating, heating, and enebriating.

Large draughts taken at meals, cause the food to fluctuate in the stomach, and prevent digestion; we ought therefore to drink often, and but little at a time; always observing to dilute strong liquors with water, because every thing that tends to intoxicate, impedes digestion.

Much

Much drinking immediately after meals is improper, if we must indulge this dangerous passion; we ought to let digestion be nearly finished, which may be about four hours after dinner.

Ardent spirits, or what is called cordials, if taken medicinally are often useful; but being used too frequently, they tend to coagulate the blood, dry up the fluids, hasten old age, and become a very accelerating cause of death.

I shall conclude these few observations on the nature of food and drink; with ardently recommending to valetudinarians, to have a most strict attention to this most useful part of the non naturals; assuring them, that much more is to be done by these means, for the preservation, and restoration of their health; than by all the other medicines prescribed by the most learned societies in the science of medicine.

Of

O F
C O L D and H O T B A T H S.

BA THING is of very great antiquity, as we may find by the testimony of the ancients, in the works of Hypocrates, Celsus, Galen, and many other old physicians; we often read of extraordinary cures performed, particularly by the cold bath.

In former ages when children were baptized, the priest plunged them into cold water; this very salutary practice, continued untill the last century; when in the reign of James the first, a law was made against the immersion of young children in baptism, only allowing the priest to sprinkle

sprinkle them, with water. From this period the bathing of young children, and indeed of grown persons, became neglected; but whether this arose from the new systems invented by the medical schools, or from the avarice of the chymists, I cannot pretend to determine: I shall only observe that in this period, all disorders were supposed to originate from a chemical cause, and the archeus of Vanhelfmont, began to be bombarded with all the chemical and galenical artillery of the shops. New nostrums were invented for every species of disease, Quacks, Impericks, Apothecaries and Physicians, encreased and multiplied over the face of the earth; and disorders kept pace, with the growing numbers of their pretended healers.

It was at this time that the human body was made the campus martius, where the corroding alkalis were intrenched against the attacks of astringent acids; and we may read in the history of mortality, that

many

many fruitless battles were fought, to the great destruction of the human species.

In some time after, the eyes of the legislative power began to be opened; and they beheld their subjects attacked from all quarters, with deadly pills and boluses, much more fatal to the english constitution, than all the boasted arms of the house of Bourbon.

Committees were then chosen, and methods were devised, how this growing calamity should be stopped; when it was humanely determined, to turn this manslaughter to the public good, and oblige Quacks to take out Patents, and pay very large sums of money, for authority to destroy their patients, with impunity and according to law; this edict had in some measure, the desired effect, and it is with pleasure that we find, the number of these imposters, who are established in this kingdom, not to be three times greater, than that

that of the regular practitioners. But to return to our subject, we are to observe, that men, in that period, became more enlightened, and had nearly cast off the veil of superstition and idolatry; for in early times, when each brook, well or pool, was supposed to be guarded and patronized by some saint constantly presiding over it; all the cures that were performed by bathing in them, were attributed to these pretended divinities: but as soon as the supposed powers of these saints, were discredited; the use of the waters became neglected. Sir John Floyer, who wrote an excellent treatise upon the use of baths, imagines that one reason for the cold bath falling into disrepute, in this country, arose from our extensive trade with the inhabitants of warm climates; from whence we imported many hot things, extremely pernicious to us, as tobacco, wine, spices, &c. and that having used these things too freely, we were led to imagine, the cold bath might be improper: he observes that a cold regimen

regimen in warm climates occasions fevers and diarrhœas, and a hot regimen in cold climates, produces dibility and intermitting fevers.

It appears by the writings of sacred historians, that bathing is as ancient as the flood: physicians ordered the bath to cleanse and strengthen the body, philosophers used it, to calm and purify the mind, and in religious ceremonies, it was employed to wash away the sins of the wicked: for no person was allowed to offer up a sacrifice, till he first washed himself in water.

We read of Pharoh's daughter, having gone to the river Nile to bathe, that she might become prolific; there being no fountain of water in Egypt: in this kingdom, in the time of the Normans, cold bathing was used to cure the rheumatism; and from the earliest accounts, till the present time, we are informed that the inhabitants of Moscovy and Finland, run naked
out

out of their hot stoves, and plunge themselves into cold water, or rub their bodies over with snow; to fortify themselves against the cold of these frozen climates.

Sir John Floyer desires us to observe the the following precautions, before we use the cold bath.

I. To bleed, purge, and use such proper diet and medicines, both before and after bathing, which a rational Physician thinks suitable to the disease and constitution of the patient.

II. Not to bathe when hot, or in a great degree of perspiration, not to remain in the bath above three or four minutes, observing first to immerge the head and the whole body.

III. To use the cold bath before dinner, fasting, or else in the afternoon, towards four or five o'clock; 'tis dangerous to go

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in,

in, after great drinking or eating.

IV. To continue to bathe nine or ten times, and go in at least two or three times a week.

V. To use sweating with cold bathing in palsies and rickets, and several diseases affecting the nerves with obstructions.

VI. In windiness or siziness of the humours, or their flatulency, no sweating is necessary, nor where bathing is used for preservation of health, or invigorating the animal spirits.

Celsus recommends the cold bath in rainy seasons, to prevent and cure rheumatic pains, which often happen on the change of weather.

The ancients imagined that a too frequent use of the hot bath, evaporated the spirits, and shortened life; but that cold
bathing

bathing prolonged it, because it strengthens and invigorates the body, and accelerates the circulation of the blood.

Hippocrates observes that after the cold bath, the body becomes warm, and after the hot bath it becomes cold; that if we want to heat the body, we must use the cold bath fasting, but if we want to cool it, and produce evacuations, the cold bath will have that effect, if used immediately after eating; he recommends the use of the hot bath, to soften, relax, open the pores of the skin, dissolve hard tumours, expel wind, cause sleep, cure sprains, and promote suppuration. He says that both the hot and cold bath may be promiscuously used, for tumours of the joints, gout, convulsions, rigidity of the limbs, tremor, palsy, suppressions, &c. He observes, that when any bad effect arises from the use of the cold bath, it proceeds from either staying too long in at a time, or using it too frequently: he also reckons cold bathing
improper

improper for patients who have pains, proceeding from suppuration; for those of a costive habit, unless properly prepared by medicines, or for those liable to diarrhoeas, hemorrhages or vomiting: these are some of the principal observations of Hippocrates; that father of medicine, upon the use of baths, which in a great measure, coincide with the methods used by the best modern practitioners. He concludes this subject with observing, that in serious disorders we ought not to trust to the use of baths alone, but employ them, as an useful auxiliary, with other medicines.

Cold baths were formerly divided into three kinds, each having its particular use and advantage; the first was river water, when made a little tepid by the heat of the sun: the second was common water moderately cold, for which sea water may be substituted, with great advantage: the third was extreme cold spring water, often impregnated with mineral or other substances.

The

The first, or river bath, is used for health and pleasure, well suited to young people, in swimming Antillus desires we should first wet the head, to prevent head aches.

The second, or common cold bath, is generally employed for medical purposes, Celsus advises the use of this bath to prevent head aches and sore eyes; Locke recommends to nurses, that they wash their childrens feet every morning in cold water, in order to strengthen their limbs, and prevent corns; Galen says that the use of the cold bath is proper for persons in health, it fortifies them against cold, encreases the appetite, quenches thirst, aids digestion, and strengthens the whole system; but he thinks the cold bath improper for such as have weak, cold constitutions.

The third kind of baths, or very cold springs, have proved efficacious in many obstinate disorders: in the year 1700, Dr. Elison,

Elifon, of Newcastle mentions, that children were frequently cured of the rickets; by plunging them, three or four times a week, in a cold spring at that place; a violent sweat generally followed, out of which they let the patient cool by degrees, he observed that persons of all ages, afflicted with pains or tumours of the joints, strains, rheumatic pains, or quartan fevers, received much relief from bathing in these cold springs: it may be worth observing, that there were two springs at Newcastle, one of which was impregnated with a mineral substance, and the other was pure; yet the same good effects were produced by each of them; from whence he was led to suppose, the benefit to proceed, from the coldness of the water, and not from its mixture with other substances.

Cold bathing often prevents a return of the gout, but it ought to be used with great caution, during the continuation of the fit.

In

In canine madness, Celsus orders the patient to be thrown into cold water, that he may be forced to drink.

The Russians; Norwegians, and other inhabitants of cold climates, are taught from experience, that the cold bath prevents gangrene and mortification; for when their hands or feet become torpid, by intense cold; they immediately rub these frozen parts with snow, or immerse them in cold water; for if incautiously they should come near a fire, or apply hot things to these parts, they would mortify and drop off; there being various instances of people loosing their fingers and toes, nay legs and arms by these means.

Sea bathing is of very great antiquity, as we may find in perusing the works of the ancient physicians.

Ariteus recommends swimming in the sea, to cure cold pains of the head.

Celsus

Celusus advised sea bathing for patients afflicted, with the dropfy, cutaneous eruptions, ulcers of the legs, and glandular obstructions,

Aristotle observes that bathing in the sea, promotes perspiration, makes the body lean, and strengthens the whole habit; and is much more efficacious than fresh water.

Ægineta advises moderate excercise, and cooling diet to such patients as use the cold bath.

If cold bathing be intended to promote perspiration, discufs or dispel tumours, the patient ought only to be dipped three times, and then be put immediately into bed; but if the cold bath be intended for hot hypocondriack or maniack patients, they out to be kept in the water a long time.

Helmont relates a story of a mad person that was cured of his disorder; by leaping
into

into a pond, and continuing there, until he was almost drowned.

Dr. Mead says cold bathing will cure melancholy, as well as canine madness.

Dr. Baynard, a physician of great eminence, who lived at Bath, in the last century, relates a number of well authenticated cases, of patients being cured of violent phrenitic fevers, by the assistance of cold bathing: he mentions the case of a servant maid in London, who in the height of a delirious fever leaped into the Thames, but being soon taken up, and put to bed again, she perfectly recovered in a short time.

A child afflicted with a similar disorder, ran into a horse pond, where he remained for half an hour, and returned home perfectly free from his fever.

A Turk, who lived servant with a gentleman

tleman in London, had a very bad delirious fever, so violent, that notwithstanding the advice and attendance of several of the faculty, his disorder became daily worse; he was at last luckily visited by some Turks of his acquaintance; who carried him out of bed, in the night, and plunged him several times into the river Thames; after which they put him to bed, and next morning, he found himself in perfect health.

In the sixteenth century we have an account of a footman belonging to Sir Thomas Yarborough, who was then at Rome, being delirious in the small pox, he ran out of his chamber, and plunged himself into cold water; after which his delirium left him and he recovered.

About the same period Mr. Mathews, an Apothecary, in Worcestershire, gives an account of a child who being delirious in the small pox; escaped from its nurse, and plunged itself into a pond of water,
where

where it remained in its wet cloaths for near three hours; but being put into bed, in a little time it was perfectly recovered from its disorder.

We find that this sagacious Apothecary, highly approved of the cold regimen in the small pox; he mentions that the small pox being very mortal in a small village, in his neighbourhood; a young boy who was seized with that disorder, was cured by swimming in a river. The father of the boy, a few days after had all the symptoms previous to the small pox; and induced by the good effect which bathing had on his son went into the cold bath, and recovered.

About this time it was the custom of nurses, to nourish young children having the small pox, with milk and apples; not allowing them to take any kind of rich or heating food or drink, whilst they had this disorder.

From

From these few observations we may conceive, how long ago the use of the cold regimen in the small pox, had been established; we have this method fully pointed out to us, by that accurate observer of human nature, the learned Dr. Sydenham, who was justly called the Hippocrates of England: this useful discovery for the preservation of mankind, is now universally observed, by all good practitioners; and although Baron Dimisdale was not the inventor of this practice, he has acquired much merit by reviving it; and had not certain inoculators veiled their practice, under the sanction of Nostrums, and hidden Arcana; they would have deserved a considerable share of applause for diffusing the practice of inoculation, and rendering the use of the cold regimen so universal as it now is.

Although there be no doubt, that these cases relating to the cure of persons in the small pox, by plunging into cold water
may

may be true ; yet prudent physicians, will not recommend so violent and hazardous a remedy ; tho' the cold regimen is certainly necessary, yet it must not be carried to too great extremes.

Dr. Baynard speaking of the danger of going into the cold bath when the patient is too hot, relates the following story, of some school boys, that went into a river to bathe ; when they came out of the water, they ran along the banks of the river to dry themselves, but the weather being extremely hot, joined to this violent exercise, occasioned a great degree of perspiration ; in which state one of the lads, more imprudent than the rest, leaped a second time into the water, in order to cool himself ; the consequence of which was, that a rigour instantly seized him, and he fell down in the water, in a torpid state. His comrades beheld him with fear and pity, not daring to assist him, lest a similar accident might happen to themselves ; at length
one

more bold than the rest, being some what cooled, carried him out of the water: he was immediately brought home, and put under the care of a physician, but did not recover the use of his limbs till next morning, when he had scarcely the least sense of hearing, which he did not perfectly regain for some considerable time after. It was further observed that this boy did not take the precaution to wet his head at going the second time into the water.

Many instances of this kind, are recorded by medical writers, which ought to deter persons from going into cold water, under such circumstances.

Since the discovery of the peruvian bark, that valuable specific, when judiciously administered, in intermitting fevers, particularly tertians, has been attended with wonderful success: but quartan fevers, are more obstinate, and are found very often to baffle the art of physic, and all pretended nostrums;

nostrums; however there are a variety of well authenticated cases, in which they have been effectually cured by the use of the cold bath.

When the cold bath is ordered for the cure of an intermitting fever, the patient is desired, to plunge himself over the head in the water just as the fit is coming on; that he should remain in the bath, but a very short time, it being found that two or three times bathing, generally effects a cure.

The ingenious Dr. Ruffel, gives us an account of the following disorders being cured by bathing in the sea, and drinking the salt water; viz. scrophulous tumours, white swellings, ulcerated eye lids, cutaneous eruptions, fluor albus, female obstructions, scurvy, rheumatism, colic, jaundice caries of the bones, shingles, madness, hydrophobia, &c. he generally ordered the patients to drink about a pint of
the

the sea water, every morning; he did not prescribe bathing in all those cases, he seemed to place his greatest dependance, in drinking the water, accompanied with proper medicines.

For dissolving tumours, he recommends the following liniment. Take an equal quantity of the vesicles of sea wreck, full of their liquor, gathered in the month of July; and of sea water; put them into a glass vessel, let them remain twelve hours, then strain the liquor, with which embrocate the part affected; two or three times a day, washing it afterwards with sea water. He also recommends the ashes of sea wreck, as a proper powder to clean the teeth.

In speaking of the nature of sea water, he observes; that pure water is without taste or smell, and being sprinkled in the eye gives no pain: but that vast collection of waters, which we call sea, and which surrounds the whole earth, and continually washes

washes whatever is contained between its opposite shores; as plants, salts, fishes, minerals, &c. must consequently be saturated and enriched, with the particles it receives from these various substances. The large quantities of animal and vegetable substances, deprived of life, and deposited in the sea; must soon turn the immense ocean, into a putrid mass; if it was not for the great quantity of salt it contains; which we know to be a very powerful antiseptic: and as heat and moisture, are both essential to produce putrefaction; bodies will be more liable to become putrid in warm climates, than in cold ones, consequently animal or vegetable substances that are in the sea, near the equator, would sooner turn putrid than if near the poles: but we find that nature has wisely guarded against that circumstance; for on examining the waters of the sea, we find it much more salt the more we approach towards the equator. Naturalists suppose this difference to be occasioned, by the great heat of the

sun near the equator ; which draws immense quantities of fresh water from the ocean by evaporation, leaving the remainder more strongly impregnated with salt.

Dr. Relhan , speaking of the contents of sea water, observes, that the quantity of salt contained in this water varies very much in different latitudes. Six pints of water near the equator, produced one pound of salt, when it required thirty pints, taken near Norway to produce the same quantity.

He says that tho' there be not much difference in the saltness of the water taken at different parts, surrounding this kingdom ; yet he is induced to give the preference to the salt water of Brighthelmston, from its being situated in the south of the island, and hence, most likely to receive any advantage from the evaporating power of the sun : and further, from its not being liable to be mixed with fresh water ; for the nearest river on the west side is six miles distant

distant, and that on the east is nine miles: the sea at this place is always clear and without smell, a pint of this water exactly contains five drams and fifteen grains of pure salt, five grains of a substance called bittern, which attracts humidity from the air, and six grains of white calcarious earth. These contents being added together make nearly a twenty third part of the whole, which is a greater proportion than is found in any other bathing place in England.

The same learned author observes that neither oil, bitumen or nitre are to be found in pure sea water; notwithstanding Marcellinus, Hales, Ruffel, and many others are of a contrary opinion.

Besides the great conveniences attending bathing in the sea at this place, there is a complete set of cold, hot, shower, and vapour baths; all plentifully supplied with sea water; with which patients can be accommodated.

Dr.

Dr. Aufiter was the first who constructed the plan of these baths, which were begun in the year 1768, he and Dr. Ruffel, seemed to recommend a hot bath of sea water, as much preferable to one made of fresh water.

We often find patients, for whose complaints the cold bath might be very useful, deprived of that advantage, either from delicacy of habit or from a dread of going into the sea; besides at some periods, the weather might be too stormy, and the sea so rough as not to admit bathing, even to the robust and courageous: but all these inconveniences are remedied by those baths, which are not more expensive than the common machines, used for bathing in the sea.

The following aphorisms, by Dr. Ruffel merit the attention, of all those who use the sea water.

“ I. Na-

“ I. Nature is the healer of diseases.

“ II. A physician, therefore, should always have his eyes upon her, as the surest guide, and tread in her steps.”

“ III. Those who labour under glandular diseases before the years of puberty, both men and women, often grow well afterwards; the last, by the appearing of the menses, and the first by the change of the constitution.”

“ IV. If obstructed glands in women, be not cured before the forty fifth year of their age, then the disease is renewed, upon the ceasing of the menses.”

“ V. But those, who are troubled with obstructed glands, if they are put under the care of a skilful physician before the age of puberty, may for the most part be preserved from the generation of pus, by a due treatment of the glandular secretions; but
when

when they have attained the age of puberty, nature generally finds some means to help herself, till she be oppressed with old age."

" VI. Those glands, which do not adhere strongly to any part, which are not painful, nor grown hard with repeated inflammations, and which have again subsided, are chiefly curable by sea water."

" VII. If a morbid gland, either of the lungs, or of any other part hath proceeded to maturation, there sea water is of no use, till the retained matter be discharged."

" VIII. In tumified glands, when the parts have cohered so long and so firmly that no force either of the heart or of medicines, can open their compressed tubes; then the hand of the surgeon is the only remedy.

" IX. But every tumour, which has not proceeded

proceeded thus far, and which has no broken vessels, is curable by a due treatment of the glandular secretions."

" X. When, upon making a revulsion the fluxion passes from one gland to another, then sea water is always to be used, till the superfluous humours are discharged by the intestinal glands."

" XI. When the glands are no longer burthened, and hence the tumours decrease ; then cold friction of the part with the fucus, and sea water to confirm the tone of the weak parts, produced great effects."

" XII. Towards the end of the cure, gall nuts, peruvian bark, and bathing in the sea, may be properly prescribed.

" XIII. When sea water does not pass off soon by stool it excites thirst.

" XIV. Those women who have not their
menfes,

menfes, are often cured by the ufe of the vegetable *Ætheops* and fea water.

“ XV. In thofe cafes which are attended with a very great acrimony, fea water fometimes irritates too much; but this may be rectified by a milk diet, with abforbents and then fea water may effect a cure.

“ XVI. Tumified glands, by reafon of their weak tone, are liable to freſh attacks of the diſeaſe.

“ XVII. The impoſthumès of the glands, often riſe again near the old ſcars, if the coat of the glands is not entirely deſtroyed or confumed.

“ XVIII. Thoſe glands which are not ſtrongly compreffed by any force, are chiefly attacked with fluxions, becauſe they are lax, and perform their offices fluggiſhly.”

“ XIX There-

“ XIX. Therefore the fluxions, chiefly of the upper lip, and nostrils were difficult to cure, and often the disease returned.”

“ XX. The disorders of the small glands, are not so easily cured as those of the large.”

“ XXI. Many ulcers of the mouth and tongue, which nearly resemble cancers, are often relieved, and sometimes also cured, by sea water, and other medicines.”

“ XXII. Sea water is good against putrefaction and restrains the ruptures of the vessels.”

“ XXIII. The cure of tumours in the internal glands, is safest by sea water; and no outward application is to be used till the habit is changed, and the inward glands relieved.”

“ XXIV. Sea water keeps the body open; and thereby affords an easier passage

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to

to the small stones and gravel out of the gall bladder."

" XXV. Sea water is a very safe purge with soap, in a curable jaundice, because it dissolves and discusses the tumours of the glands of the liver."

" XXVI. Deafness that proceeds from a scorbutic fluxion upon the glands, of the external parts of the ear, is curable by sea water."

" XXVII. Tumours in the alimentary tube, are discussed by sea water, if they are neither imposthumated nor scirrhus, nor cancerous; for this remedy ought not to be used while the parts labour under an inflammation."

" XXVIII. Leanness and a hectic fever, when they proceed from the defect of the alimentary tube, are commonly conquered by sea water."

" XXIX. Sailors

“ XXIX. Sailors by sea water, are freed from the returing fits of bilious colics ; after the inflammation is removed, by bleeding and lenitive purges.”

“ XXX. When a gland continues in a state of inflammation, bleeding, nitre, lenitive purges, and whatever may prevent abscesses are to be used.”

“ XXXI. When the inflammation is removed, sea water is proper ; as it disperses tumours, and strengthens the tone of the weak parts.”

“ XXXII. A fever attended with shiverings, in glandular diseases, is generally a sign that pus is matured.”

“ XXXIII. If a diseased or tumified gland seems fixed, and adheres to the part it lies upon, and is also pretty hard, then the cold bath is not yet to be used.”

“ XXXIV. But

“XXXIV. But when the gland becomes less soft and disjointed from the part it lies upon, the liniment of the sea wreck may be used, and the cure finished by bathing in the sea; remembering at coming out to drink as much sea water as will give two or three stools in the day.”

“XXXV. Diseases of the glands generally return unless the use of sea water and bathing in the sea be continued, till the parts have recovered their due tone.”

“XXXVI. Those glands, which have often swelled, and again partly subsided, and which upon new fluxions, have been more swelled than before, such glands seldom entirely recover their native form and beauty.”

“XXXVII. But if this deformity of the part that remains, gives any uneasiness to the patient; it may for the most part, be taken away by the hand of the Surgeon.”

XXXVIII. When,

“ XXXVIII. When, by the help of any part, any evacuation or separation from the blood has been performed for a long continuance, and as it were by custom, and the person receives no injury thereby; then that evacuation is not to be turned another way, but is rather to be continued in the same channel, if in passing out of the body it is not attended with much trouble or danger.”

“ XXXVIII. But if it is very troublesome and likewise dangerous, it is not to be turned an other way, till we have first substituted some other evacuation in its stead, either by issues or blisters, or by constant purging with sea water; that by these means a passage may be made for the superfluous humours to discharge themselves as usual, by the glands of the intestines”

“ XL. All critical tumors of fevers, are to be left to the strength of Nature; that we may see what she can perform, either
by

by way of suppuration or diffipation, before we have recourse to the help of sea water; that is, if the pus be generated in a safe place,”

“XLI. If the obstruction be removed, which had principally affected some glands it commonly attacks others, unless timely prevented by a judicious treatment; so that it is usually observed, when an obstruction of the pulmonary gland, is removed by art or the strength of Nature, that the disease appears again a fresh, in the glands of the neck.”

“XLII. Hot and thin habits often bear, without any inconvenience sea water alone, when they reject hotter medicines altho’ joined with sea water.”

“XLIII. But the more fleshy habits, that have vitiated glands; do very well bear æthiops, cinnabar, antimony and the ashes of calcined submarine plants, and the like medicines

medicines joined with sea water, and the sea water is thereby greatly assisted."

"XXLIV. Sea water is indued with many and great virtues; but the unskilfull may make a very bad use of it."

Before I conclude this little essay, it may not be amiss to mention a very valuable mineral spring, situated about half a mile, north-west of Brighthelmston.

Doctor Relham who in the year 1760 analized, and published an account of its waters, says that the peasants had found out this spring some years before, being unacquainted with its virtues, and had made use of it for the common necessaries of life. as it was the only water appearing upon the downs for many years; that this spring issues from the declining part of a little hill covered with furze, and that the soil around it is loamy with various strata of bole, ochre and umbre.

That

That this water deposited an ochtous sediment, which caused the inhabitants to suppose it contained a mineral; that a gentleman in that neighborhood, having drank it for a disorder in his stomach, it had the desired effect, which made many others try it for various complaints, numbers of whom received great benefit; that in the last summer many patients drank it, on the spot, and from its nature and the cures performed by it, there were strong proofs that it was of the chalybeat kind, and in some degree resembling that of Turnbridge

In making the following experiments and observations, he found that when this water was examined in a glass, it appeared of a whitish colour, temperate with regard to heat, of a taste and smell like other mineral waters, and was nearly of the same weight with distilled water.

That an infusion of campeachey wood, being mixed with this water, became a deep
purple

purple colour, and deposited a black sediment; that the same appearance took place upon having used an infusion of cochineal.

That this water being mixed with an infusion of galls, became instantaneously purple, and soon after black; that nearly the same colour was produced, by mixing it with an infusion of green tea; that syrup of violets changed the colour of this water to a crimson, a proof that it contains an acid.

That this water will not unite with soap, and that two measures of it being added to one of milk, when boiled produced a coagulation.

That certain quantities of vegetable or mineral acids, being mixed with this water, no effervescence or intestine motion took place, but on the contrary the water became more clear, and pellucid; the acids more effectually dissolving the mineral substances contained in this spring.

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That,

That distilled water saturated with lime, being mixed with this mineral water, in some time will turn milky, and that a precipitation of the lime will take place, being a proof that this water is impregnated with fixed air.

That this water being mixed in certain proportions with fixed or volatile alkalis, or lixivium of tartar, spirit of hartshorn, spirit of salammoniacum, deposited an orange coloured sediment.

That by distilling and evaporating this water, by different means, it was found, that the quantity of solid matter existing in a pint of it, was at least equal to twenty grains: that this matter is composed of ochre, mixed with a white earth, and impregnated with the spirit of sea salt.

This author further observes that so powerful a mineral water as this is, being freely drank with out proper directions, may produce

duce very great inconveniencies, as well as remarkable advantages in bodies well or ill disposed to receive its effects; and it was accordingly observed, that from the injudicious use of it, many people complained, of fevers, head aches, and the piles: effects easily to be accounted for, if we attend to the constipating power, which this water must necessarily possess, from the quantity of ochre contained in it.

It must also be observed that the waters of Tunbridge differ greatly from this spring, in point of strength; it appearing from the experiments of Doctor Lucas, that a certain quantity of Tunbridge water only contained two grains and three quarters, of a mineral substance when the same quantity taken from the spring, at Brighthelmston, contained near fourteen grains of a substance similar to that of the former.

Doctor Relhan further observes that the advantages which appeared to arise from the use of this water, drank in a proper quantity

quantity, were, an increase of appetite and spirits, strength and agility; particularly to persons of lax and feeble habits; patients therefore labouring under weakness, the consequence of irregular living, illicit pleasures, debilities arising from bad management in lying in, &c. were by this water greatly relieved.

How far the nature of this water may be meliorated by dilution, or adapted to particular constitutions, by suffering the ochre to subside, or suspending it; by the assistance of a congenial acid; how properly it may be drank unaltered, when assisted by an aperient medicine, or used as a corroborant, after a purgative course of salt water; he says are matters not yet determined with a proper degree of precision.

From what has been said we may justly infer, that a spring of so powerfull a nature and situated so convenient to this salutary place of retirement, ought to merit the most serious attention of the Faculty. We

We find from the above analysis that this water contains a considerable quantity of fixed air; whose medical virtues were little understood till the learned Doctors Black, Mackbride, Priestly, Dobson, Percival, Hulme, &c. favoured the world with their usefull discoveries; and it is to be hoped that from the several advnatages that have been received, both from the external and internal use of fixed air; others may be prompted to make still further researches.

I shall continue my experiments and enquiries, concerning the nature and medical effects of this water.

Some time hence I hope to present the world with something more complete, with regard to the effects of different kinds of air, sea and mineral waters; any observations upon these subjects, which may be communicated to the Author during the summer season at Brighthelmston, or in the winter, directed to him in Thanet-Place,
Temple

Temple-Bar, London; shall be gratefully acknowledged, and faithfully arranged in future publications.

E I N I S.

